

IN THE CLAIMS:

Please cancel claims 1-49 without prejudice or disclaimer, and substitute new Claims 50-98 therefor as follows:

Claims 1-49 (Cancelled).

50. (New) An optical fiber comprising:

a glass portion;

at least one protective coating of thermoplastic material comprising at least one thermoplastic elastomer;

said thermoplastic material having the following characteristics:

a modulus of elasticity value at +25°C lower than 150 MPa; and

a Vicat point higher than 85°C.

51. (New) The optical fiber according to claim 50, wherein the thermoplastic material has a modulus of elasticity value at +25°C of at least 10 MPa.

52. (New) The optical fiber according to claim 51, wherein the thermoplastic material has a modulus of elasticity value at +25°C higher than 20 MPa.

53. (New) The optical fiber according to claim 50, wherein the thermoplastic material has a Vicat point higher than 120°C.

54. (New) The optical fiber according to claim 53, wherein the thermoplastic material has a Vicat point lower than 350°C.

55. (New) The optical fiber according to claim 50, wherein the thermoplastic material has a melting point higher than 180°C.

- 56. (New) The optical fiber according to claim 55, wherein the thermoplastic material has a melting point not higher than 350°C.
- 57. (New) The optical fiber according to claim 50, wherein the thermoplastic material has a water absorption value, measured at 55°C, not higher than 2%.
- 58. (New) The optical fiber according to claim 57, wherein the thermoplastic material has a water absorption value, measured at 55°C, not higher than 1%.
- 59. (New) The optical fiber according to claim 50, wherein the thermoplastic material has a Melt Flow Index (MFI) higher than 1 g/10 min.
- 60. (New) The optical fiber according to claim 59, wherein the thermoplastic material has a Melt Flow Index (MFI) higher than 5 g/10 min.
- 61. (New) The optical fiber according to claim 60, wherein the thermoplastic material has a Melt Flow Index (MFI) of between 10 g/10 min and 100 g/10 min.
- 62. (New) The optical fiber according to claim 50, wherein the ratio between the modulus of elasticity value at -40°C and the modulus of elasticity value at +60°C of the thermoplastic material is lower than 15.
- 63. (New) The optical fiber according to claim 62, wherein the ratio between the modulus of elasticity value at -40°C and the modulus of elasticity value at +60°C of the thermoplastic material is between 1 and 10.
- 64. (New) The optical fiber according to claim 50, wherein the thermoplastic material is a thermoplastic elastomer (a).
- 65. (New) The optical fiber according to claim 50, wherein the protective coating is a single protective coating which is directly positioned onto the glass portion.

66. (New) The optical fiber according to claim 65, wherein the single protective coating includes an inner layer of thermoplastic material directly positioned onto the glass portion, and an outer layer of thermoplastic material comprising at least one colouring agent directly positioned onto said inner layer.

67. (New) The optical fiber according to claim 50, wherein the thermoplastic elastomer is selected from:

- (a1) copolyether esters or copolyester esters;
- (a2) styrene block copolymers or terpolymers with different olefins and/or with dienes; or
- (a3) copolymer of ethylene with at least one aromatic α -olefin.

68. (New) The optical fiber according to claim 67, wherein the copolyether esters comprise poly[(C₁-C₈) linear or cyclic]alkylene terephthalate segments and poly(C₁-C₈) linear alkylene oxide segments.

69. (New) The optical fiber according to claim 68, wherein the poly[(C₁-C₈) linear or cyclic]alkylene terephthalate segments are selected from: poly(butylene-naphthalene dicarboxylic acid), poly(cyclohexanedicarboxylic acid-cyclohexanemethanol), polybutyleneterephthalate and polytrimethyleneterephthalate-2, 6-naphthalate.

70. (New) The optical fiber according to claim 68, wherein the poly(C₁-C₈) linear alkylene oxide segments are selected from polyalkylene oxides.

71. (New) The optical fiber according to claim 70, wherein the polyalkylene oxides are polytetramethylene oxide, polypropylene oxide, or polyethylene oxide.

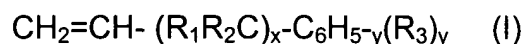
72. (New) The optical fiber according to claim 67, wherein the copolyester esters comprise poly[(C₁-C₈) linear or cyclic]alkylene terephthalate segments and (C₁-C₈) linear aliphathic polyester segments.

73. (New) The optical fiber according to claim 72, wherein the poly((C₁-C₈) linear or cyclic]alkylene terephthalate segments are selected from: poly(butylene-naphthalene dicarboxylic acid), poly(cyclohexanedicarboxylic acid-cyclohexanemethanol), polybutyleneterephthalate and polytrimethyleneterephthalate-2, 6-naphthalate.

74. (New) The optical fiber according to claim 72, wherein the (C₁-C₈) linear aliphathic polyester segments are selected from: polybutylene adipate, polytetramethylene adipate, or polycaprolactone.

75. (New) The optical fiber according to claim 67, wherein the styrene block copolymers or terpolymers with different olefins and/or with dienes (a2) are selected from: styrene-butadiene-styrene (S-B-S), styrene-isoprene-styrene (S-I-S) and styrene-ethylene/butene-styrene (S-EB-S) triblock polymers; styrene-ethylene/propylene (S-EP) and styrene-ethylene/butene (S-EB) diblock polymers; styrene-butadiene or styrene-isoprene branched polymers.

76. (New) The optical fiber according to claim 67, wherein in the copolymer (a3), the aromatic α -olefin is an olefin of formula (I):



wherein R₁, R₂ and R₃, which may be identical to or different from each other, represent hydrogen or a linear or branched alkyl group containing from 1 to 8 carbon atoms; or R₃, different from R₁ and R₂, represents an alkoxy group, a carboxyl group, an acyloxy group, said acyloxy group optionally being substituted with alkyl groups containing from

1 to 8 carbon atoms or hydroxyl groups or halogen atoms; x is 0 or an integer between 1 and 5 inclusive; and y is 0, 1 or 2.

77. (New) The optical fiber according to claim 76, wherein the olefin of formula (I) is styrene; mono- or poly-alkylstyrenes; styrene derivatives containing functional groups; phenyl-substituted alkenes; or mixtures thereof.

78. (New) The optical fiber according to claim 50, wherein the thermoplastic material comprises at least one thermoplastic crystalline polymer (b).

79. (New) The optical fiber according to claim 78, wherein the thermoplastic crystalline polymer (b) has a melting point higher than 180°C.

80. (New) The optical fiber according to claim 79, wherein the thermoplastic crystalline polymer (b) has a melting point not higher than 350°C.

81. (New) The optical fiber according to claim 78, wherein the thermoplastic crystalline polymer (b) is selected from: syndiotactic polystyrene; poly(4-methyl-1-pentene), either as a homopolymer or as a copolymer with an α -olefin; polyketones; poly(phenylene sulfide); or mixtures thereof.

82. (New) The optical fiber according to claim 78, wherein the thermoplastic crystalline polymer (b) is selected from: polyesters; polyamide; or mixtures thereof.

83. (New) The optical fiber according to claim 78, wherein the thermoplastic crystalline polymer (b) is present in the thermoplastic material in an amount of 10% to 45% by weight with respect to the weight of the thermoplastic material.

84. (New) The optical fiber according to claim 83, wherein the thermoplastic crystalline polymer (b) is present in the thermoplastic material in an amount of 20% to 35% by weight with respect to the weight of the thermoplastic material.

85. (New) The optical fiber according to claim 50, wherein the thermoplastic material comprises at least one amorphous polymer (c).
86. (New) The optical fiber according to claim 85, wherein the amorphous polymer (c) has a glass transition temperature (T_g) higher than 180°C.
87. (New) The optical fiber according to claim 85, wherein the amorphous polymer (c) has a glass transition temperature (T_g) not higher than 350°C.
88. (New) The optical fiber according to claims 85, wherein the amorphous polymer (c) is selected from: cycloolefin random copolymers; polyphenyleneoxide; aliphatic or aromatic hydrocarbon resins; or mixtures thereof.
89. (New) The optical fiber according claim 85, wherein the amorphous polymer (c) is present in the thermoplastic material in an amount of 10% to 45% by weight with respect to the weight of the thermoplastic material.
90. (New) The optical fiber according to claim 89, wherein the amorphous polymer (c) is present in the thermoplastic material in an amount of 20% to 35% by weight with respect to the weight of the thermoplastic material.
91. (New) The optical fiber according to claim 67, wherein the thermoplastic material comprises at least one styrene block copolymer or terpolymer with different olefins and/or with dienes (a2) or at least one copolymer of ethylene with at least one aromatic α -olefin and at least a processing oil (d).
92. (New) The optical fiber according to claim 91, wherein the processing oil (d) is selected from mineral oils, vegetable oils, synthetic oils, or mixtures thereof.

93. (New) The optical fiber according to claim 91, wherein the processing oil (d) is present in the thermoplastic material in an amount of 2% to 100% by weight with respect to the weight of the thermoplastic material.
94. (New) The optical fiber according to claim 93, wherein the processing oil (d) is present in the thermoplastic material in an amount of 5% to 70% by weight with respect to the weight of the thermoplastic material.
95. (New) The optical fiber according to claim 50, wherein the thermoplastic material comprises at least an anti-hydrolysis agent.
96. (New) The optical fiber according to claim 50, wherein the thermoplastic material comprises at least one colouring agent selected from pigments, dyes, or coloured fillers.
97. (New) The optical fiber according to claim 96, wherein the colouring agent is present in the thermoplastic material in an amount of 0.1% to 10% by weight with respect to the weight of the thermoplastic material.
98. (New) The optical fiber according to claim 97, wherein the colouring agent is present in the thermoplastic material in an amount of 0.5% to 5% by weight with respect to the weight of the thermoplastic material.